Working With Beryllium Copper

FRC East Processing Procedures

Report Documentation Page

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Beryllium Copper

- Several alloys processed
  - Manufacture of bushings
  - Removal tools manufactured from beryllium copper (ex. chisels)
- Developed local processing specification for handling beryllium copper parts and raw stock August 2002
- Artisans and supervisors familiar with MSDS sheets
- FRC East POC
  - Ross Dotson ross.dotson@navy.mil
  - (252)-464-7154

Concerns

- Working with beryllium copper a personnel hazard
- Fine particles of beryllium copper from machining, grinding, sanding, filing and any other operation that removes base metal
- Beryllium dust or fumes irritate the respiratory tract
- Hypersensitive or allergic reactions to repeated or prolonged exposure
  - Symptoms include redness, itching and pain when exposed.

FRC East PPE Requirements

- Contact with beryllium copper particles must be avoided
- PPE requirements when handling beryllium copper & cleaning equipment used to manufacture or repair beryllium copper parts:
  - Tyvek coveralls
  - Safety shoes
  - Safety glasses with side-shields while machining
  - Leather gloves
- Gloves worn while installing or removing beryllium copper materials
  - Not required near moving machinery
- Individuals must report to the Occupational Health Clinic immediately if beryllium copper material lodged in the skin

Handling of BeCu Parts and Materials

- Any clean-up of copper beryllium residue shall be performed in fashion that does not create dust:
  - The use of compressed air or brooms is prohibited
  - Use HEPA vacuum and wet methods such as with wet rags or alcohol wipes preferred.
  - Leather gloves and tools (tongs, scoops, shovels, etc.) used to clean up beryllium turnings, chips, and other residue
- Machined parts should be thoroughly cleaned of loose particulate prior to handling
- Machinery used for machining beryllium copper alloys shall be cleaned and coolant reservoirs pumped prior to use on other alloys. Contact RCRA & Hazardous Waste Management

Handling of BeCu Parts & Materials *cont.*

- Machinery used for machining beryllium copper alloys shall be cleaned and coolant reservoirs pumped prior to use on other alloys
  - Contact RCRA & Hazardous Waste Management Branch for assistance.
- Machinery may be dedicated to the machining beryllium copper
  - Such equipment would only require cleaning per normal shop practice.
  - Equipment designated for this purpose shall be clearly labeled that it is to only be used for machining copper beryllium

Handling of BeCu Parts & Materials *cont.*

- Cleanup rags and other beryllium waste collected in plastic bags
  - Bags shall be labeled “DANGER: CONTAMINATED WITH BERYLLIUM. DO NOT REMOVE DUST BY BLOWING OR SHARING. CANCER AND LUNG DISEASE HAZARD.”
- RCRA & Hazardous Waste Management Branch contacted for disposal instructions
- Stock and parts made from copper beryllium shall be shall be wrapped in plastic during storage and transportation. The wrapped material shall be marked as copper beryllium.

Handling of Be Waste

- Be: In Solid Metallic Form Not a RCRA Waste
- Under CERCLA, Be is a Hazardous Substance Reportable at 10lb Threshold
- FRCSE Disposes of Approx 1000 lb Be Waste per Annum
  - In the Form of CuBe Shavings, Chips and Fines
  - Sources: Machine and Milling Operations, Tactical A/C Line, Tool Crib